

# Xinhang Liu

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## Education

<b>The Hong Kong University of Science and Technology</b> Ph.D. in Computer Science and Engineering, Advisors: Chi-Keung Tang and Yu-Wing Tai	Sep. 2022 - Now
<b>ShanghaiTech University</b> B.Eng. in Computer Science and Technology, Advisors: Jingyi Yu and Lan Xu	Sep. 2018 - Jun. 2022
<b>Carnegie Mellon University</b> Robotics Institute Summer Scholar, Hosts: Sebastian Scherer and Huai Yu	Jun. 2021 - Aug. 2021

## Professional Experience

<b>ByteDance Seed</b> Research Intern, Hosts: Bingyi Kang	Feb. 2025 - Aug. 2025
<b>Mitsubishi Electric Research Laboratories</b> Research Intern, Hosts: Moitreya Chatterjee, Pedro Miraldo, and Suhas Lohit	Jun. 2023 - Sep. 2023

## Selected Publications

- **Xinhang Liu**, Yuxi Xiao, Donny Y. Chen, Jiashi Feng, Yu-Wing Tai, Chi-Keung Tang, Bingyi Kang, “*Trace Anything: Representing Any Video in 4D via Trajectory Fields.*” (**Preprint**)
- Longfei Li, Zhiwen Fan, Wenyan Cong, **Xinhang Liu**, Yuyang Yin, Matt Foutter, Panwang Pan, Chenyu You, Yue Wang, Zhangyang Wang, Yao Zhao, Marco Pavone, Yunchao Wei, “*Martian World Models: Controllable Video Synthesis with Physically Accurate 3D Reconstructions.*” (**NeurIPS 2025**)
- Jiakai Zhang, Shouchen Zhou, Haizhao Dai, **Xinhang Liu**, Peihao Wang, Zhiwen Fan, Yuan Pei, Jingyi Yu, “*CryoFastAR: Fast Cryo-EM Ab Initio Reconstruction Made Easy.*” (**ICCV 2025**)
- Qi Wu, Yubo Zhao, Yifan Wang, **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang. “*Motion-Agent: A Conversational Framework for Human Motion Generation with LLMs.*” (**ICLR 2025**)
- **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang. “*ChatCam: Empowering Camera Control through Conversational AI.*” (**NeurIPS 2024**)
- **Xinhang Liu**, Jiaben Chen, Shiu-hong Kao, Yu-Wing Tai, Chi-Keung Tang. “*Deceptive-NeRF/3DGS: Diffusion-Generated Pseudo-Observations for High-Quality Sparse-View Reconstruction.*” (**ECCV 2024**)
- **Xinhang Liu**, Yan Zeng, Yifan Qin, Hao Li, Jiakai Zhang, Lan Xu, Jingyi Yu. “*CryoFormer: Continuous Heterogeneous Cryo-EM Reconstruction using Transformer-based Neural Representations.*” (**ECCV’24 NFBCC Workshop Highlight**)
- **Xinhang Liu**, Yu-Wing Tai, Chi-Keung Tang, Pedro Miraldo, Suhas Lohit, Moitreya Chatterjee. “*Gear-NeRF: Free-Viewpoint Rendering and Tracking with Motion-aware Spatio-Temporal Sampling.*” (**CVPR 2024 Highlight, 2.8% of 11532**)
- **Xinhang Liu**, Jiaben Chen, Huai Yu, Yu-Wing Tai, Chi-Keung Tang. “*Unsupervised Multi-View Object Segmentation Using Radiance Field Propagation.*” (**NeurIPS 2022**)
- Liao Wang, Jiakai Zhang, **Xinhang Liu**, Fuqiang Zhao, Yanshun Zhang, Yingliang Zhang, Minye Wu, Lan Xu, Jingyi Yu. “*Fourier PlenOctrees for Dynamic Radiance Field Rendering in Real-time.*” (**CVPR 2022**)
- Jiakai Zhang, **Xinhang Liu**, Xinyi Ye, Fuqiang Zhao, Yanshun Zhang, Minye Wu, Yingliang Zhang, Lan Xu, Jingyi Yu. “*Editiable Free-Viewpoint Video using a Layered Neural Representation.*” (**SIGGRAPH 2021**)

## Teaching & Service

**Reviewer:** CVPR, ICCV, ECCV, NeurIPS, ICLR, and ICML.

**Teaching assistant:** COMP4411 Computer Graphics (Fall, 2024), COMP2611 Computer Organization (Spring, 2024), COMP5421 Computer Vision (Spring, 2023)